

## Krishna Kalidindi

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**From:** MIKE [mikeys@cnmnetwork.com]  
**Sent:** Wednesday, October 10, 2001 11:00 PM  
**To:** Lin, Qian  
**Subject:** Re: Revised text and drawings of Photo Quality Meter for review

Qian:

Thank you.

We need to include a step-by-step description of the 2D algorithm - please copy steps 1 - 4 for the 1D algorithm (see text) and modify each step as needed for the 2D algorithm. Do we need to submit graphs too?

Mike

----- Original Message -----

From: "Lin, Qian" <qlin@exch.hpl.hp.com>  
To: <mikeys@cnmnetwork.com>  
Sent: Wednesday, October 10, 2001 2:12 PM  
Subject: RE: Revised text and drawings of Photo Quality Meter for review

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> Michael,  
>  
> Here is the Matlab code for 2D gradient. Once it is computed, step 4  
> is  
used  
> to determine if the photo is sharp or not.  
>  
> a=imread('big.jpg');  
> b=imread('big_blur.jpg');  
>  
> a_int=double(a);  
> b_int=double(b);  
> for i=2:1500  
>     for j=2:2000  
>  
c(i,j)=abs((a_int(i+1,j-1,1)+a_int(i+1,j,1)+a_int(i+1,j+1,1))-(a_int(i-1,j-1  
>  
,1)+a_int(i-1,j,1)+a_int(i-1,j+1,1)))+abs((a_int(i+1,j+1,1)+a_int(i,j+1,1)+a  
> _int(i-1,j+1,1))-(a_int(i-1,j-1,1)+a_int(i,j-1,1)+a_int(i+1,j-1,1)));  
>     end  
> end  
> for i=2:1500  
>     for j=2:2000  
> a(i,j,1)=c(i,j)/3;  
> a(i,j,2)=c(i,j)/3;  
> a(i,j,3)=c(i,j)/3;  
>     end  
> end  
> image(a);  
>  
> figure;  
>  
> for i=2:1500  
>     for j=2:2000  
>  
d(i,j)=abs((b_int(i+1,j-1,1)+b_int(i+1,j,1)+b_int(i+1,j+1,1))-(b_int(i-1,j-1  
>  
,1)+b_int(i-1,j,1)+b_int(i-1,j+1,1)))+abs((b_int(i+1,j+1,1)+b_int(i,j+1,1)+b  
> _int(i-1,j+1,1))-(b_int(i-1,j-1,1)+b_int(i,j-1,1)+b_int(i+1,j-1,1)));
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>     end
> end
> for i=2:1500
>     for j=2:2000
> b(i,j,1)=d(i,j)/3;
> b(i,j,2)=d(i,j)/3;
> b(i,j,3)=d(i,j)/3;
>     end
> end
> image(b);
>
> -----
> Qian Lin
> Manager, Imaging Technology Department
> HP Labs, Palo Alto
> -----
>
>
>
> -----Original Message-----
> From: MIKE [mailto:mikeys@cnmnetwork.com]
> Sent: Monday, October 08, 2001 11:48 PM
> To: qian_lin@hp.com
> Cc: jcarson@fulbright.com
> Subject: Revised text and drawings of Photo Quality Meter for review
> Importance: High
>
>
>
> Dear Qian:
>
> Enclosed please find a revised 2nd draft and revised informal drawings
> per our discussions of last week and the week before that for your
> review. I will formalize the drawings and ship them to you for review
> once we are finished with all text additions/revisions. We are close
> to completion - only a few issues remain (see text). If you have any
> questions/comments, please let me know. Thank you for your help in
> this matter.
>
> Best Regards,
>
> Mike Mihaylov
> Fulbright & Jaworski LLP
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